

KEYS TO NEOTROPICAL SPECIES OF *CALYMMADERUS* SOLIER
AND SPECIES OF *CALYTHECA* WHITE, WITH TAXONOMIC
NOTES (COLEOPTERA: ANOBIIDAE)

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Abstract.—A study of the available types of the Neotropical species of *Calymmaderus* and the species of *Calythea* has resulted in a key to 65 species of *Calymmaderus* and a key to three species of *Calythea*. Taxonomic changes include the following: *Eupactus angustatus* Pic and *E. gounellei* Pic are new synonyms of *Calymmaderus rufescens* (Pic); *Calythea brunnea* (Pic) is a new combination; *Calymmaderus minasensis* (Pic), *C. subattenuatus* (Pic), and *C. bahiensis* (Pic) each represent a new status; and *Calymmaderus pici* is a new name for *C. pubescens* (Pic) and *C. brasiliensis* is a new name for *C. punctatus* (Gorham). Lists that are presented include: Species in the keys along with their synonyms; label data on types including lectotype designations; and *Calymmaderus* species and subspecies of uncertain status. Three instances of possible future species synonymy in *Calymmaderus* are brought out, along with discussion of four species now in *Calymmaderus* that are so distinct that future transferal to new genera might be necessary.

This contribution is similar to my study of tropical species of *Tricorynus* (White, 1981) in that both present a key to aid in the assignment of the names of described species. Most of these names have previously been unassignable because of inadequate original descriptions and an absence of comprehensive treatments.

During this work I have had at hand most types of Pic species that belong in *Calymmaderus* Solier (1849) along with the 11 types of Gorham, the six of Champion, the three of Blair, the three of Fall, and the one of Fisher. However, the types of some Pic species have not been at hand but have been represented by specimens that agree closely with the holotype, and the names of these types have been assigned on the basis of these specimens. Appended is a list of eight species of uncertain status; these evidently belong in *Calymmaderus*, but I have not seen the types. I have also seen the single Pic type of a species of *Calythea* White (1973).

During construction of the *Calymmaderus* key, there was available but one specimen of most species. Clearly one specimen of a species provided no indication of the variation either within or between the sexes of that species, so doubtless some characters used in the key vary more than indicated. In addition, specimens in poor condition (as with abraded pubescence) may have given a misleading impression of certain characters.

For most of the keyed species in both genera, a number of characters are used rather than just one or two. Where possible, many points of difference are included in couplets along with characters that do not represent differences between species that key closely. The aim has been to more thoroughly describe each species.

My work with species of *Calymmaderus* shows that the presently described 82 species (65 in the key; nine in White, 1974a; and eight of uncertain status) are likely but a fraction of the number of species in the neotropics and that many remain to be described.

Further studies will probably show that certain species now assigned to *Calymmaderus* should be placed in new genera. At least the four species discussed in the note on aberrant species (following) should be considered for removal from *Calymmaderus*.

In the key and descriptions for species of *Calymmaderus* are references to dual punctation and to large and small punctures. For a discussion of these characters see White, 1965: 288. For complete synonymy of *Calymmaderus* see White, 1974b: 423. Characters that distinguish *Calymmaderus* and *Calythea* are given by White, 1973.

TAXONOMIC NOTES

Calymmaderus minasensis (Pic), NEW STATUS

Eupactus minasensis Pic, 1904c: 37.

Calymmaderus minasensis (Pic), Pic, 1912a: 65.

Tricorynus minasensis (Pic), White, 1979: 212 (as synonym of *T. herbarius*).

I have had difficulties in assigning the name *minasensis* because three different species in the Pic collection were determined by Pic as *minasensis*, and all three bear type labels.

My error in establishing *minasensis* as a synonym of *Tricorynus herbarius* resulted from early examination of two specimens (on one pin) determined by Pic as *C. minasensis* and which bear (almost certainly in error) a red museum type label; these specimens are identical with *herbarius*. I now reject these specimens as types because they do not bear a yellow handwritten Pic type label, as do the other two possible types examined later. Most Pic types bear both the yellow handwritten type label and the red, printed, capitalized, museum type label.

Both Pic specimens that bear two type labels and a *minasensis* determination label have locality data that agree with that given in the original description: Minas, Sertao de Diamantina. The eight words published by Pic, 1904c: 37, that validated the name *minasensis* do not allow it to be recognized; however, he does state the length to be 4.5 mm. The possible type that belongs to the genus *Tricorynus* and which is synonymic with *T. fulvopilosa*, is 3.7 mm long. The possible type that belongs to the genus *Calymmaderus* is 4.5 mm long. On this basis alone I accept this specimen as the actual type of *minasensis* Pic, and I hereby designate it as **lectotype**.

Calymmaderus rufescens (Pic)

Thaptor rufescens Pic, 1902b: 55.

Eupactus angustatus Pic, 1904c: 37. **NEW SYNONYMY.**

Eupactus gounellei Pic, 1904c: 37. **NEW SYNONYMY.**

I have found only minor external differences between the holotypes of *rufescens* and *angustatus*. The type of *rufescens* has the head densely and finely punctate, nearly punctate-granulate, and clearly less shiny than the remainder of the body, the eyes separated by about the vertical diameter of an eye, and the length of 3.6 mm. The type of *angustatus* has the head less densely punctate and not punctate-granulate, not significantly less shiny than the remainder of the body, the eyes separated by less than the diameter of an eye, and the length is 3.8 mm. In my opinion these minor differences do not justify treating these as distinct species.

The comparative external morphology of the types of *rufescens* and *gounellei* show even fewer substantial differences than those discussed above.

***Calymmaderus bahiensis* (Pic), NEW STATUS**

Eupactus theresae bahiensis Pic, 1904c: 37.

Differences between the types of *C. theresae* and *C. t. bahiensis* indicate that they represent two species. *Calymmaderus theresae* has a distinct stria on the disk of each elytron, and the groove of the metasternal lobe extends a little over half the length of the lobe; *C. bahiensis* has no elytral striae and the groove of the metasternal lobe extends a little less than half the length of the lobe.

***Calymmaderus subattenuatus* (Pic), NEW STATUS**

Eupactus nigricolor subattenuatus Pic, 1904c: 37.

External differences clearly show that *subattenuatus* is a species distinct from *nigricolor*. In *subattenuatus*, the front of the head is bulbous with the clypeal area depressed, and the metasternal punctures are large and rimmed. In *nigricolor*, the front of the head is evenly convex and the metasternal punctures are small and pointlike.

***Calytheca brunnea* (Pic), NEW COMBINATION**

Eupactus brunneus Pic, 1904c: 36.

Characters of the type show clearly that this species belongs in *Calytheca*.

TWO NAME CHANGES

Calymmaderus pubescens (Pic), 1902b: 55, is a junior secondary homonym of *C. pubescens* (Gorham), 1883: 204, so I offer the replacement *pici*, **NEW NAME**. *Calymmaderus punctatus* (Pic), 1922: 5, is a junior secondary homonym of *C. punctatus* (Gorham), 1883: 203, so I replace it with *brasiliensis*, **NEW NAME**.

POSSIBLE SYNONYMY

The minor differences between the types of *Calymmaderus humilis nitidissimus* (Pic) and *C. rufonitens* (Pic) (see couplet 43 of the key) raises doubts as to whether or not they are actually distinct species as here treated. Examination of more complete series of specimens may show that the two names should be synonymized.

Calymmaderus pupatus (Gorham) and *C. throscoides* (Gorham) are here treated as distinct. However, the types of these species, too, exhibit only minor external differences (see couplet 23). Further study could show that the two names apply to only one species.

The type of *nitescens* (Champion) and a specimen that I compared with the type of *semirufus* (Champion), and which agreed closely with it, are so similar in all characters except color that they could represent one species. A more lengthy series than the two specimens I have seen will be needed to settle the question.

I did not dissect the genitalia of types loaned to me. Because these beetles are small, oval, and the body parts are very tightly fitting, there is always the danger of irreparable damage to a specimen when genitalic dissections are attempted. Some questions of possible synonymy may be settled by genitalic dissections, for male genitalia of Anobiidae are highly diagnostic.

NOTES ON ABERRANT SPECIES

The four species here discussed exhibit significant differences from the other species in *Calymmaderus*, and it may be desirable to erect two new genera to receive them.

The combination of characters of *C. nigronotatus* (Pic) make it unique. The one specimen at hand (compared with type) is 5.8 mm long, the 3rd and 4th abdominal segments are not double, and the terminal 3 antennal segments are about twice as long as the preceding 8 segments combined. In addition, the metasternum bears a deep groove medially for about $\frac{2}{3}$ of its length, which receives the last 2 antennal segments, and the elytra bear large, deep punctures that are more or less clearly aligned into 10 striae.

The species *C. comatus* (Champion), *brevissimus* (Pic), and *dejeani* (Pic) are all about the same size (1.5–1.8 mm) and are very similar in morphology. They have the sutures of the 3rd and 4th abdominal segments not double; virtually all other species of *Calymmaderus* have these sutures double. In at least *comatus* and *dejeani*, the least 3 antennal segments are clearly longer than all preceding segments combined; the antennae of the type of *brevissimus* are concealed. It is likely that these three species deserve a genus separate from *Calymmaderus*.

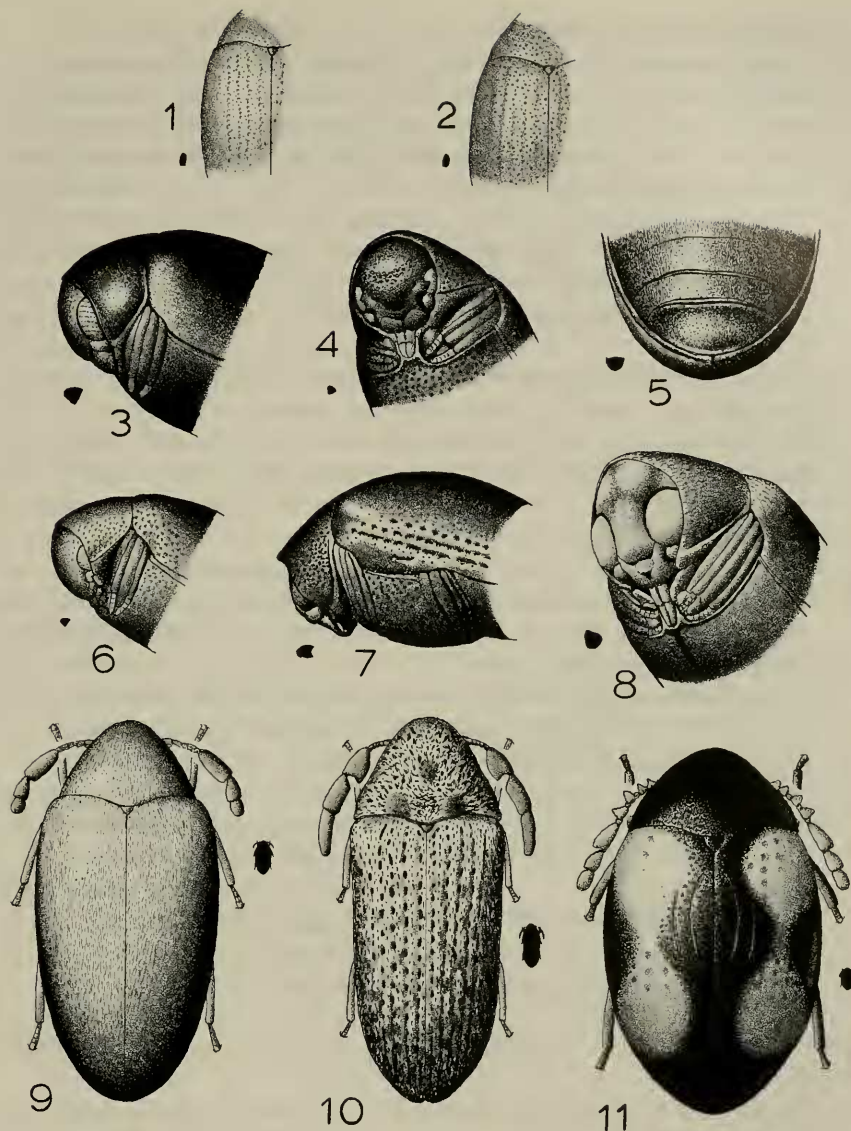
NOTES ON KEY

The following species have been assigned on the basis of specimens that have been compared with types: *attenuatus* Pic, *comatus* (Champion), *funki* (Pic), *germaini* (Pic), *minasensis* (Pic), *nigronotatus* (Pic), *oblongus* (Gorham), *pubescens* (Gorham), *punctatus* (Gorham), *rufomaculatus* Pic, *semirufus* (Champion), *sharpi* Gorham, and *testaceipes* (Pic).

Calymmaderus punctulatus LeConte has been worked into the key on the basis of identified specimens in the USNM, including specimens examined by H. C. Fall for his 1905 revision. I have not examined the type of *punctulatus*.

KEY TO NEOTROPICAL SPECIES OF *CALYMMADERUS*

- | | | |
|-------|---|----|
| 1. | Dorsal surface with hairs, these separated by less than length of a hair | 2 |
| – | Dorsal surface lacking hairs or with hairs so short that they are separated by more than length of a hair | 30 |
| 2(1). | Hairs of elytra in swirled patches, irregular in direction, or irregular in density | 3 |
| – | Hairs of elytra not swirled or irregular in direction, always uniform in density | 9 |
| 3(2). | Elytron with 10 distinct striae, impressed throughout, but deepest at | |



Figs. 1-11. *Calymmaderus* spp. 1, *C. instriatus*, portion of dorsal surface. 2, *C. pubescens*, portion of dorsal surface. 3, *C. bahiensis*, view of anterior half. 4, *C. venezuelensis*, view of anterior half. 5, *C. pupatus*, apex of abdomen. 6, *C. brevissimus*, view of anterior half. 7, *C. nigricolor*, diagonal view of body. 8, *C. subopacus*, view of anterior half. 9, *C. pupatus*, dorsal view. 10, *C. nigronotatus*, dorsal view. 11, *C. substriatus*, dorsal view.

side; hairs short and fine, irregularly changing direction and irregularly reflective; body throughout reddish brown; vertex of head shallowly, longitudinally depressed; apex of 5th abdominal segment depressed before outer margin, depression crescent-shaped; length about 5 mm;

- Ecuador *inaequalicollis* (Pic)
- Elytron never with 10 striae; otherwise not as above; Brazil 4
- 4(3). Pubescence bicolored, partly yellow or orange, partly white 5

- Pubescence not bicolored 6
- 5(4). Vertex protuberant on each side of middle and frons not produced; (Fig. 8) body more than $2\times$ as long as wide; eyes large, separated by less than vertical diameter of an eye; pubescence of elytra with golden patches; elytral punctures very fine, much denser than those of other surfaces; length about 5.2 mm *subopacus* (Pic)
- Vertex not protuberant; frons produced into a pointed tubercle; body slightly less than $2\times$ as long as wide; eyes smaller, separated by about $1.3\times$ vertical diameter of an eye; pubescence of elytra with golden lines; elytral punctation same as that of other surfaces; length about 4.0 mm *variegatus* (Pic)
- 6(4). Pubescence of dorsum brown, weakly golden, forming numerous dense patches, and sparse to absent between patches; frons between eyes bluntly produced; body surfaces often with a minutely roughened appearance; abdomen with sides and apex alutaceous; length about 3.8 mm *tessellatus* (Pic)
- Not as above 7
- 7(6). Pubescence golden yellow; elytral surfaces very densely, finely punctate and nearly lusterless; frons with a shallow depression above a weak protuberance; eyes separated by about $1.3\times$ vertical diameter of an eye; length about 5 mm *latipennis* (Pic)
- Pubescence whitish to weakly yellowish; elytral surfaces shiny; frons protuberant but not depressed; eyes separated by about vertical diameter of an eye; length about 3.3–3.4 mm 8
- 8(7). Elytral pubescence with more than 10 distinctly swirled patches, hairs obscuring but not concealing surface; head between eyes with a distinctly pointed tubercle; body surfaces dark reddish brown; length about 3.3 mm *sericeomaculatus* (Pic)
- Pubescence of elytra with much fewer weakly swirled patches, hairs concealing surface; head between eyes with a weakly produced tubercle; body surfaces dark brown; length about 3.3 mm *argentifer* (Pic)
- 9(2). Pubescence of dorsum bicolored, dull whitish in part and brownish in part; Brazil 10
- Pubescence of dorsum not bicolored, of same color throughout; various localities 12
- 10(9). Metasternal depression that receives apex of antenna not extending below level of transverse carina; body stout, nearly $1.8\times$ as long as wide; darker pubescence dark brown; eyes separated by about $1.3\times$ vertical diameter of an eye; length about 3.3 mm *nigromaculatus* (Pic)
- Metasternal depression that receives apex of antenna extending below level of transverse carina; body over $2\times$ as long as wide; darker pubescence orangish brown to reddish brown; eyes separated by less than diameter of an eye; length 3.3–4.0 mm 11
- 11(10). Dark elytral pubescence forming a broad transverse band, base and apex of elytra with whitish pubescence; length about 3.3 mm *subnotatus* (Pic)

- Dark elytral pubescence covering most of elytra, interrupted by light pubescence basally, along suture, and diagonally at apex; length 3.4–4.0 mm *brunneonotatus* (Pic)
- 12(9). Elytron with 10 equally distinct striae, formed of deep, elongated to much elongated punctures; length 5.8–6.3 mm 13
 - If elytron striate, with striae most distinct laterally or near suture, not as above; length 1.5–6.7 mm 14
- 13(12). Body with dense, pale yellowish pubescence that more or less conceals surface (Fig. 10); body very densely punctate and nearly lusterless; metasternal groove that receives apex of antennal club nearly attaining hindcoxae; elytral intervals weakly convex; 5th abdominal segment not carinate apically; length about 5.8 mm; Argentina *nigronotatus* (Pic)
 - Body with very fine and sparse whitish pubescence that does not conceal surface; body shiny, not densely punctate; metasternal groove that receives apex of antennal club much shorter; elytral intervals strongly convex; 5th abdominal segment longitudinally carinate apically; length about 6.3 mm; Brazil *cribripennis* (Pic)
- 14(12). Elytron apically at side with no distinct striae 15
 - Elytron apically at side with 1–3 distinct striae 20
- 15(14). Pubescence of dorsum semi-erect; body reddish brown throughout; elytral disk lacking striae; body about 1.5× as long as wide; 3rd and 4th abdominal sutures not double; eyes separated by vertical diameter of an eye to a little less; vertex carinate; length 1.3–1.5 mm; Guatemala and Nicaragua *comatus* (Champion)
 - Pubescence of dorsum appressed, not semi-erect; otherwise not as above; various localities; length 2.0–4.4 mm 16
- 16(15). Elytral disk lacking striae 17
 - Elytral disk with feeble to moderately distinct striae 18
- 17(16). Dorsal surface black and with a distinct, bluish reflection, ventral surface largely dark brown, abdomen reddish brown; length about 2.1 mm; 3rd and 4th abdominal sutures not double; punctures of dorsum large, dense, separated by less than diameter of a puncture; body slightly over 1.5× as long as wide; Panama *caeruleus* (Champion)
 - Body reddish brown nearly throughout, abdomen reddish brown; length about 4.4 mm; 3rd and 4th abdominal sutures double; punctures of dorsum small and dense, separated on an average by more than diameter of a puncture; body nearly 2.0× as long as wide; Lower California *mixtus* (Fall)
- 18(16). Front of head broadly protuberant and with an arcuate, transverse band of large punctures (Fig. 4); clypeus depressed; eyes small, separated by over 2× vertical diameter of an eye, distinctly notched; body about 1.6× as long as wide; length about 2.0 mm *venezuelensis* (Pic)
 - Front of head not protuberant, punctation regular; otherwise not as above; length about 2.3–2.4 mm 19
- 19(18). Feeble elytral striae formed of weakly impressed grooves (Fig. 2); body red brown; eyes small, separated by about 2× vertical di-

- ameter of an eye; pubescence weakly reddish; 5th abdominal segment nearly flat from front to back; Panama and Guatemala *pubescens* (Gorham)
- Feeble elytral striae formed of more or less aligned, large, shallow punctures (Fig. 1); body brown; eyes large, separated by about vertical diameter of an eye; pubescence weakly yellow; 5th abdominal segment concave front to back; Brazil *instriatus* (Pic)
- 20(14). Elytron apically at side with a single groove 21
- Elytron apically at side with 2 or 3 grooves 24
- 21(20). Body in dorsal view stout, about 1.85× as long as wide; in lateral view dorsal outline of body nearly hemispherical; eyes large, separated by about 0.8× vertical diameter of an eye; body very dark brown, nearly black; pubescence gray; punctures at side of pronotum very dense, surface nearly lusterless; length 3.8–4.5 mm; Mexico *sharpi* (Gorham)
- Body in dorsal view not stout, 2.0–2.2× as long as wide; otherwise not as above 22
- 22(21). Stria at side of elytron distinct at apical ½, basally at side with 2–3 more or less distinct rows of punctures forming striae; pubescence yellowish; body red brown; eyes separated by 0.8–1.5× vertical diameter of an eye; 5th abdominal segment narrowly concave before apex; length 3.3–5.6 mm; Mexico *oblongus* (Gorham)
- Stria at side of elytron distinct at apical ⅓, with no striae basally at side; otherwise not as above; Mexico to Costa Rica 23
- 23(22). Fifth abdominal segment clearly concave from front to back (Fig. 5); elytron with weak striae basally near suture; apex of metasternal process that accepts antennal tip not deeply indented, extending less than ½ length of process; length 3.4–5.2 mm; eyes separated by 0.8–1.3× vertical diameter of an eye (Fig. 9); Mexico to Costa Rica *pupatus* (Gorham)
- Fifth abdominal segment flat to feebly concave front to back; elytron with no striae basally near suture; apex of metasternal process that accepts antennal tip more deeply indented, extending ½ length of process; length 3.2–3.8 mm; eyes separated by 0.8–1.2× vertical diameter of an eye; Belize and Guatemala *throscoides* (Gorham)
- 24(20). Elytron with 10 striae, 2 to 3 at side distinct, others much less distinct and formed of more or less aligned, elongated punctures, striae often also weakly impressed; eyes large, separated by 0.8–1.4× vertical diameter of an eye; body reddish brown to dark brown throughout; 5th abdominal segment with an arcuate concavity before outer margin; length 3.7–5.3 mm; Galapagos *galapagoensis* (Blair)
- Elytron with only 2 lateral striae, otherwise not as above; Brazil and Lower California 25
- 25(24). Length about 6.7 mm; vertex protuberant each side of middle, protuberances bearing moderately dense, golden hair; elytra shiny, punctation dual, larger punctures very small, smaller punctures minute; body 2.1× as long as wide; 5th abdominal segment shallowly concave front to back; Brazil *gibbosiceps* (Pic)

- Length not much over 4.5 mm; vertex not protuberant, lacking golden hair; otherwise not as above 26
- 26(25). Pubescence of dorsum yellow, reflective, moderately dense, obscuring surface sculpture; length about 2.7–3.0 mm 27
- Pubescence not as above; length 2.7–4.5 mm 28
- 27(26). Elytral punctation dual, both larger and smaller punctures distinctly impressed, smaller punctures about $\frac{1}{2}$ size of larger punctures; eyes separated by about vertical diameter of an eye; body 1.8 \times as long as wide; length about 3 mm; Brazil *brevipennis* (Pic)
- Elytral punctation dual, but larger punctures distinctly impressed and smaller punctures weakly impressed and about $\frac{1}{3}$ size of larger punctures; eyes separated by about 0.7 \times vertical diameter of an eye; body 1.8 \times as long as wide; length about 2.8 mm; Brazil *multimaculatus* (Pic)
- 28(26). Dorsal surface black; metasternum dark brown, abdomen reddish brown; pubescence light grayish, denser, obscuring surface sculpture; body about 1.9 \times as long as wide; eyes separated by about vertical diameter of an eye; length about 3.4 mm; 5th abdominal segment shallowly concave, apex transversely carinate; Brazil *pici* White
- Body reddish brown throughout; otherwise not as above 29
- 29(28). Body about 2.3 \times as long as wide; eyes large, separated by a little less than diameter of an eye; metasternum at middle with a distinct, longitudinal groove; metasternum primarily with small punctures only, larger punctures weakly indicated near anterior margin; length 3.5–3.7 mm; Brazil *rufescens* (Pic)
- Body about 1.8 \times as long as wide; eyes smaller, separated by about 1.5 \times vertical diameter of an eye; metasternum at middle lacking a groove; metasternum throughout with dual punctation, larger punctures dense and distinct throughout; length about 2.7 mm; Lower California *nactus* (Fall)
- 30(1). Elytron apically at side with 2 distinctly impressed striae 31
- Elytron apically at side lacking distinct striae 37
- 31(30). Dorsum black nearly throughout and with a bluish reflection; ventral surface primarily reddish brown; punctation not dual, formed of large punctures only, these very dense at side of pronotum, on elytra tending to align in series; length about 2.5 mm; Honduras and Panama *punctatus* (Gorham)
- Dorsum black to reddish brown, never bluish; otherwise not exactly as above; length 1.8–3.5 mm; various localities 32
- 32(31). Length about 1.8 mm; eyes large, bulging, separated by 1.8 \times vertical diameter of an eye; vertex with a blunt, moderately long carina; front with a small flat area; lateral elytral striae indicated to or nearly to level of middle leg; notch of metasternal lobe deep, extending nearly to level of transverse carina; 5th abdominal segment with a broad, shallow, subcircular depression; Mexico *donckieri* (Pic)
- Length 2.2–3.5 mm; otherwise not exactly as above; various localities 33
- 33(32). Elytron with 1 or both lateral striae distinctly impressed to base of elytron (Fig. 7); length 3.2–3.5 mm; frons protuberant; Brazil 34

- Elytron with at most 1 stria weakly impressed to near base of elytron; length 2.2–2.7 mm; frons not protuberant; Cuba, Mexico, Bolivia 35
- 34(33). Dorsum black; eyes separated by about $1.4\times$ vertical diameter of eye; frons between eyes weakly produced; large punctures on metasternum small, distinct anteriorly, becoming obsolete posteriorly; length about 3.4 mm; Fig. 7 *nigricolor* (Pic)
- Dorsum reddish brown; eyes separated by about vertical diameter of an eye; frons between eyes distinctly produced; large punctures on metasternum moderate in size anteriorly, smaller but distinct posteriorly; length about 3.2 mm *subattenuatus* (Pic)
- 35(33). Metasternal process that receives apex of antenna indented to level of transverse metasternal carina; eyes separated by $1.6\times$ vertical diameter of an eye; body reddish brown, elytra slightly darker than remainder of body; punctures of dorsum not dual, of 1 size only; 5th abdominal segment broadly concave front to back; length about 2.2 mm; Mexico *subvestitus* (Champion)
- Metasternal process that receives antennal apex indented about $\frac{1}{2}$ way to level of transverse metasternal carina; otherwise not as above 36
- 36(35). Body reddish brown; pronotum with feeble luster, elytra shiny; extreme side of pronotum weakly, evenly rounded; eyes separated by about $1.7\times$ vertical diameter of an eye; length about 2.4 mm; Cuba *testaceipes* (Pic)
- Body dark brown to nearly black; pronotum and elytra equally shiny; extreme side of pronotum bulging; eyes separated by over $2\times$ vertical diameter of an eye; length about 2.7 mm; Bolivia *germaini* (Pic)
- 37(30). Elytra bicolored 38
- Elytra not bicolored 40
- 38(37). Each elytron black and with 2 large orange-red spots that join near middle of elytron (Fig. 11); pronotum black; elytral disk with 4 arcuate striae; eyes separated by about vertical diameter of an eye; metasternum nearly impunctate; length about 2.0 mm; Brazil *substriatus* (Pic)
- Not exactly as above 39
- 39(38). Elytra primarily dark brown but apically with 2 large orange spots; pronotum reddish brown; elytral disk not striate; head on vertex weakly carinate; length 2.3–3.0 mm; Columbia, Venezuela *funki* (Pic)
- Elytra with about basal $\frac{2}{3}$ orangish red, apex black; pronotum mostly black; elytral disk with 2 arcuate striae each side of suture; head on vertex not carinate; length about 2.5 mm; Brazil ... *rufomaculatus* Pic
- 40(37). Elytron near suture with 2 or 3 usually weak striae 41
- Elytron near suture with 1 stria or none 46
- 41(40). Elytron with 2 or 3 weak striae near suture, formed of discrete, not confluent punctures, innermost stria not or weakly incurved anteriorly 42

- Elytron with 2 strong striae near suture, formed of shallow, largely confluent punctures, innermost stria clearly incurved anteriorly . . . 44
- 42(41). Length 1.8–2.0 mm; elytron with 3 striae near suture; body dark brown to nearly black, appendages, ventral surface, and often margins reddish brown; eyes separated by about 1.5× vertical diameter of an eye; punctures of dorsum of 1 size; elytral punctures clearly largest and densest at side of elytron; Costa Rica *dorcatomoides* (Fisher)
- Length 3.2–3.5 mm; elytron with 2 striae near suture; otherwise not as above 43
- 43(42). Pronotum black, elytra dark brown; body about 1.9× as long as wide; elytron at side with a row of punctures forming a weak stria; eyes separated by 0.8× vertical diameter of an eye; abdominal segments 2, 3, and 4 near middle with almost no evidence of punctures; metasternum deeply, longitudinally grooved in middle; punctures of dorsum of 1 size; length about 3.5 mm; Peru *metallicus* (Pic)
- Pronotum dark brown, elytra black; body about 1.7× as long as wide; elytron at side with no stria; eyes separated by 1.2× vertical diameter of an eye; abdominal segments 2, 3, and 4 near middle with distinct punctures; metasternum at middle shallowly depressed; punctures of dorsum of 1 size; length about 3.2 mm; Guatemala *erythrocephalus* (Champion)
- 44(41). Length 2.0–2.3 mm; body very dark, nearly black but with red evident, especially ventrally; body stout, from dorsal view 1.5–1.6× as long as wide; eyes separated by about 1.8× vertical diameter of an eye; dorsum with dual punctation, smaller punctures minute; side of pronotum produced into a sharp; diagonal carina; metasternum at middle broadly flattened; apex of 5th abdominal segment bluntly produced; Nicaragua *striatus* (Gorham)
- Length 3.0–3.7 mm; otherwise not as above; Brazil 45
- 45(44). Last abdominal segment with punctures small, sparse, and separated on an average by about 4–5× diameter of a puncture; length about 3.0 mm; body reddish brown throughout with abdomen lighter than remainder; body from dorsal view 1.8× as long as wide; eyes separated by about vertical diameter of an eye; punctures of dorsal surface of 1 size *humilis nitidissimus* (Pic)
- Last abdominal segment with punctures larger, denser, separated on average by about 1–2× diameter of a puncture; length about 3.7 mm; body reddish brown throughout with abdomen lighter than remainder; body from dorsal view 1.8× as long as wide; eyes separated by vertical diameter of an eye; punctures of dorsal surface of 1 size *rufonitens* (Pic)
- 46(40). Elytron near suture with 1 distinct stria 47
- Elytron near suture with a weak stria or none 48
- 47(46). Striae of elytral disk nearly straight; length about 4.5 mm; dorsum black; body 1.7× as long as wide; 5th abdominal segment nearly flat front to back, apex produced; Peru *theresae* (Pic)
- Striae of elytral disk incurved anteriorly; length about 2.5 mm; elytra very dark brown, pronotum mostly reddish brown; body about 1.8×

- as long as wide; 5th abdominal segment weakly convex, apex not produced; Brazil *humilis humilis* (Pic)
- 48(46). Elytral punctures large, shallow, and so dense that they are partially confluent throughout; surfaces with a weak luster; elytra with a feeble indication of striae; eyes large, separated by about $\frac{1}{2}$ vertical diameter of an eye; side of pronotum with a weak, diagonal carina; length about 2.5 mm; Brazil *brasiliensis* White
- Elytral punctures never as large and dense; surfaces shiny; otherwise not as above; various localities 49
- 49(48). Pronotum at side with a produced carina from posterior angle to anterior angle, meeting latter some distance above proepisternum (Fig. 6); length 1.8–2.6 mm 50
- Pronotum at side without a produced carina, but with a distinct groove along posterior margin to above proepisternum, margin behind groove often produced (Fig. 3); length 2.2–4.6 mm 54
- 50(49). Punctures on pronotal disk shallow and indistinct to obsolete 51
- Punctures on pronotal disk not shallow, distinct 52
- 51(50). Pronotal punctures at side distinct, not shallow (Fig. 6); body dark brown but with many areas reddish; punctures of elytral disk weakly impressed, shallow; eyes separated by about $2\times$ vertical diameter of an eye; length about 1.7 mm; body about $1.5\times$ as long as wide; Guadeloupe *brevissimus* (Pic)
- Pronotal punctures at side indistinct and shallow; body reddish brown throughout; punctures of elytral disk distinctly impressed and not shallow; eyes separated by about $2\times$ vertical diameter of an eye; length about 1.7 mm; body about $1.6\times$ as long as wide; Nicaragua and Panama *ovulum* (Gorham)
- 52(50). Groove of metasternal lobe that accepts antennal apex deeper, extending about $\frac{3}{4}$ length of lobe; length about 1.8 mm; eyes separated by about $1.2\times$ vertical diameter of an eye; body dark brown, some margins reddish; elytral disk with largest punctures forming weak striae; elytral punctures separated on an average by about diameter of a puncture; Mexico *dejeani* (Pic)
- Groove of metasternal lobe that accepts antennal apex shallower, extending less than $\frac{1}{2}$ length of lobe; length about 2.3–2.6 mm; Honduras and Brazil; otherwise not as above 53
- 53(52). Body reddish brown throughout; punctures of head weakly impressed, obscured by finely alutaceous surface; punctures of 5th abdominal segment of only weakly impressed large punctures, no small punctures; base of elytron near suture with feeble large punctures forming striae; eyes separated by $1.5\times$ vertical diameter of an eye; body $1.6\times$ as long as wide; length about 2.3 mm; Honduras ... *exiguus* (Gorham)
- Body dorsally very dark brown to nearly black, ventrally more reddish; punctures of head strongly impressed, surface not alutaceous; punctures of 5th abdominal segment of distinct dual punctation; eyes separated by $1.5\times$ vertical diameter of an eye; base of elytron near suture with no indication of striae; body $1.6\times$ as long as wide; length about 2.6 mm; Brazil *brevis* (Pic)

- 54(49). Middle of abdominal segments 2, 3, and 4 with fine, sparse punctures, these much smaller and sparser than punctures on 5th segment; body reddish brown to primarily black; punctures of metasternum small and sparse, not clearly dual; eyes separated by 1.0–1.3× vertical diameter of an eye; body about 1.7× as long as wide; length 2.4–3.8 mm; Lower California (southern U.S.) *punctulatus* (LeConte)
- Middle of abdominal segments 2, 3, and 4 virtually free of punctures, or punctures distinct and as those on remainder of abdomen 55
- 55(54). Middle of abdominal segments 2, 3, and 4 nearly free of distinct punctures 56
- Middle of abdominal segments 2, 3, and 4 with distinct punctures 58
- 56(55). Length about 4.0 mm; body about 1.75× as long as wide; body throughout very dark reddish brown; eyes separated by 1.3× vertical diameter of an eye; dual abdominal sutures 3 and 4 with 2nd groove much deeper and wider than 1st; in lateral view body stout, length 2× depth; pronotum bulging (Fig. 3); Brazil *bahiensis* (Pic)
- Length 2.3–2.7 mm; otherwise not as above 57
- 57(56). Length about 2.7 mm; body about 2× as long as wide; body throughout reddish brown; eyes separated by a little over vertical diameter of an eye; dual abdominal sutures 3 and 4 with each groove of double grooves similar in depth and width; in lateral view body less elongate, length 2.2× depth; St. Vincent *laevis* (Gorham)
- Length about 2.3 mm; body about 1.8× as long as wide; body reddish brown but elytra clearly darker than remainder; eyes separated by about 1.2× vertical diameter of an eye; abdominal sutures 3 and 4 with anterior groove of each double groove deeper and wider than posterior groove; in lateral view body elongate, length 2.4× depth; Galapagos *alutaceus* (Blair)
- 58(55). Side of pronotum before posterior angle not bulging to weakly bulging; length 1.8–3.2 mm; usually stouter, about 1.6–1.9× as long as wide; elytral punctures usually sparser, separated on an average by about 2–3× diameter of a puncture; Guadeloupe, Galapagos, Central America and Lower California 59
- Side of pronotum before posterior angle strongly bulging; length 3.6–4.6 mm; more elongate, about 1.9–2.1× as long as wide; elytral punctures denser, separated on an average by 2× diameter of a puncture or less; Argentina and Brazil 64
- 59(58). Length 2.6–3.2 mm; body about 1.8–1.9× as long as wide 60
- Length 1.8–2.5 mm; body about 1.6–1.7× as long as wide 62
- 60(59). Length about 3.2 mm; body reddish brown throughout; vertex not carinate, not protuberant; eyes separated by about 1.4× vertical diameter of an eye; pronotum moderately bulging before posterior margin; elytral punctures elongated; head above eye with a feeble, narrow groove; Lower California *canonicus* (Fall)
- Length about 2.6–2.9 mm; otherwise not exactly as above; Guadeloupe and Galapagos 61

- 61(60). Length about 2.9 mm; body reddish brown throughout; vertex finely, longitudinally carinate and not protuberant; eyes separated by about 1.3× vertical diameter of an eye; pronotum weakly bulging before posterior margin; elytral punctures round; head above eye with a shallow, narrow groove, not as wide as 2 eye facets; Guadeloupe *dufau* (Pic)
- Length about 2.6 mm; body reddish brown but with pronotum darker than elytra; vertex finely, longitudinally carinate and protuberant; eyes separated by a little over vertical diameter of an eye; pronotum not bulging before posterior margin; elytral punctures elongated; head above eye with a deep, wide groove as wide as 2 eye facets; Galapagos *georgicus* (Blair)
- 62(61). Body black nearly throughout, some areas and margins may be reddish; eyes separated by 1.2–1.3× vertical diameter of an eye; vertex finely, longitudinally carinate; body about 1.6× as long as wide; pronotum rounded before posterior angle, not bulging; punctures of dorsum of 1 size only; length 2.1–2.4 mm; 5th abdominal segment grooved at apex; Guatemala *glaber* (Gorham)
- Body reddish brown throughout or with elytra noticeably darker than remainder; otherwise not as above; Mexico to Panama 63
- 63(62). Body reddish brown but with elytra noticeably darker than remainder; length 2.1–2.5 mm; elytron near suture lacking a stria; punctures of dorsum of one size; eyes separated by about vertical diameter of an eye; vertex not carinate; body 1.66× as long as wide; pronotum weakly bulging before posterior angle; apex of 5th abdominal segment grooved; Mexico to Panama *semirufus* (Champion)
- Body reddish brown throughout; length about 1.8 mm; punctures of dorsum of essentially 1 size, but elytron adjacent to suture with a feeble stria of punctures slightly larger than others on elytron; vertex not carinate; eyes separated by about vertical diameter of an eye; body 1.7× as long as wide; pronotum weakly bulging before posterior angle; apex of 5th abdominal segment grooved; Panama *nitescens* (Champion)
- 64(58). Punctures on head near middle of frons irregular in size and density, smaller ones clearly smaller than those at side of pronotum; elytral punctures with an obscure tendency to form longitudinal bands; length about 4.0 mm; Argentina *bruchi* (Pic)
- Punctures of head about same size to a little larger than those at side of pronotum, regular in size and density; elytral punctures not forming bands 65
- 65(64). Reddish brown throughout; length about 3.6 mm; 5th abdominal segment more shallowly concave from front to back; head adjacent to eyes not shallowly depressed, evenly rounded throughout; punctures of head separated from one another by much less than diameter of a puncture; Argentina *attenuatus* Pic
- Dorsum very dark brown, most of ventral surface more reddish; length about 4.5 mm; 5th abdominal segment more deeply concave

front to back; head adjacent to eyes shallowly depressed; punctures of head separated by a little less than diameter of a puncture; Brazil
 *minasensis* (Pic)

LIST OF SPECIES OF *CALYMMADERUS* IN KEY WITH SYNONYMY

- alutaceus* (Blair), 1928: 677.
argentifer (Pic), 1904b: 32.
attenuatus Pic, 1912a: 64.
 subattenuatus (Pic), 1911: 122.
bahiensis (Pic), 1904c: 37.
brasiliensis White, new name.
 punctatus (Pic), 1922: 5 (homonym).
brevipennis (Pic), 1900: 68.
brevis (Pic), 1904c: 37.
brevissimus (Pic), 1909: 170.
bruchi (Pic), 1912b: 455.
brunneonotatus (Pic), 1904b: 32.
caeruleus (Champion), 1913: 149.
canonicus (Fall), 1905: 222.
comatus (Champion), 1913: 150.
cribripennis (Pic), 1904b: 31.
dejeani (Pic), 1905b: 115.
donckieri (Pic), 1904a: 19.
dorcatomoides (Fisher), 1927: 49.
dufau (Pic), 1906: 22.
erythrocephalus (Champion), 1913: 146.
exiguus (Gorham), 1886: 347.
funki (Pic), 1904a: 19.
galapagoensis (Blair), 1928: 676.
georgicus (Blair), 1928: 676.
germaini (Pic), 1907: 338.
gibbosiceps (Pic), 1904b: 31.
glaber (Gorham), 1883: 203.
humilis humilis (Pic), 1904c: 37.
 h. nitidissimus (Pic), 1904c: 37.
inaequalicollis (Pic), 1932: 11.
instriatus (Pic), 1922: 5.
laevis (Gorham), 1898: 327.
latipennis Pic, 1915b: 7.
metallicus (Pic), 1902a: 31.
minasensis (Pic), 1904c: 37.
mixtus (Fall), 1905: 221.
multimaculatus (Pic), 1922: 4.
nactus (Fall), 1905: 220.
nigricolor (Pic), 1904c: 37.
nigromaculatus (Pic), 1904b: 32.
nigronotatus (Pic), 1910: 46.
nitescens (Champion), 1913: 147.
oblongus (Gorham), 1883: 206.
ovulum (Gorham), 1883: 205.
pici White, new name.
 pubescens (Pic), 1902b: 55 (homonym).
pubescens (Gorham), 1883: 204.
punctatus (Gorham), 1883: 203.
punctulatus (LeConte), 1865: 236.
 viticola (Schwarz), 1878: 365.
pupatus (Gorham), 1883: 205.
rufescens (Pic), 1902b: 55.
 angustatus (Pic), 1904c: 37.
 gounellei (Pic), 1904c: 37.
rufomaculatus Pic, 1915b: 7.
rufonitens (Pic), 1904c: 37.
semirufus (Champion), 1913: 147.
sericeomaculatus Pic, 1915a: 9.
sharpi (Gorham), 1886: 348.
striatus (Gorham), 1883: 204.
subattenuatus (Pic), 1904c: 37.
subnotatus (Pic), 1904c: 36.
subopacus (Pic), 1904b: 31.
substriatus (Pic), 1922: 5.
subvestitus (Champion), 1913: 145.
tessellatus (Pic), 1900: 68.
testaceipes (Pic), 1905a: 92.
theresae (Pic), 1902a: 31.
throscoides (Gorham), 1883: 206.
variegatus (Pic), 1900: 68.
venezuelensis Pic, 1904a: 19.

LABEL DATA FROM *CALYMMADERUS* TYPES

The types of Pic are in the Muséum National d'Histoire Naturelle in Paris, those of Gorham, Champion, and Blair are in the British Museum of Natural

History in London, the three of Fall are in the Museum of Comparative Zoology at Harvard University, and the one of Fisher is in the National Museum of Natural History in Washington, D.C.

Below I note discrepancies between published data and data on type specimens.

Most Pic species are represented in his collection by single specimens that bear his handwritten type labels, so there is usually no need to designate lectotypes. In the instances where there was a series of specimens in the Pic collection representing a species (and in the collections of other authors), I have designated lectotypes and have affixed lectotype labels to pins bearing specimens.

C. alutaceus (Blair).—"James Island. Galapagos. In rotten wood. 25. 71 24. St. George Expedn. C. L. Collenette.; Type H. T.; *Eupactus alutaceus* Bl., Type, det. K. G. Blair."

C. angustatus (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; Ech. no. 233, 1904, p. 37; type; TYPE: *angustatus* Pic."

C. argentifer (Pic).—"Caraca (Minas Geraz), Brésil, E. Gounelle I.2.1885; type; TYPE: *argentifer* Pic; Ech. no. 232."

C. attenuatus Pic.—"Rep. Argent.; TYPE; (undecipherable) = *attenuata* Pic (undecipherable)."

C. bahiensis (Pic).—"S. Antonio da Barra, Pr. de Habia, Gounelle 11-12.88; Ech. no. 233, 1904, p. 37; type; TYPE; *bahiensis* Pic."

C. brevipennis (Pic).—"Jatahy, Prov. Goyas. Brésil, Dec. 97-Janv. 98; Le Nat. no. 313, 15 Mars 1900 p. 68; type; TYPE; Th. *brevipennis* Pic."

C. brevis (Pic).—"Bresil, (Gounelle); accouplement; Ech. no. 233, 1904, p. 37; type; TYPE: *brevis* Pic."

C. brevissimus (Pic).—"889.; Guadeloupe (Dufau); type; TYPE; *Eupactus brevissimus* Pic."

C. brunneonotatus Pic.—"S. Antonio da Barra, Pr. de Habia, Gounelle 11-12.88; type; TYPE; *brunneovittatus* Pic." The published spelling of this name was *brunneonotatus*.

C. bruchi (Pic).—"Rep. Argentina, Proc. Mendoza, 190, *C. Bruch*; *Eupactus* n. sp.; type; TYPE; *Bruchi* Pic."

C. caeruleus (Champion).—"David, Chiriqui. Champion.; Sp. figured.; Type; *Eupactus caeruleus* Ch.; Wrongly named, figured as *Lioolius punctatus*; Tr. Ent. Soc. L. 1913. det. Champion.; *Lioolius punctatus* Gorham; B.C.A. Coll. III. (2). *Lioolius*."

C. canonicus (Fall).—"Santa Rosa Low, Cal, Cal.; 5; *canonicus* TYPE; M.C.Z. Type 24682; H. C. FALL COLLECTION: *Eupactus canonicus* Fall."

C. comatus (Champion).—Partial data follow: "Chontales, Nicaragua, Jansen; Type."

C. cribripennis (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; type; TYPE; *cribripennis* Pic."

C. dejeani (Pic).—"Teapa; type; Ech. no. 293, 1905, p. 115; Thaptor *dejeani* Pic."

C. donckieri (Pic).—"151.; Sierra de Durango.; type; TYPE; *Eupactus donkieri* Pic." For a description of this species see White, 1973: 847.

C. dufau (Pic).—"Anobium, 234 ter.; 8.; Guadeloupe, (Dufau); type; TYPE; *Eupactus Dufau* Pic, n. sp.; Lectotype with *L. Eupactus dufau* Pic, by R. White

'80." Two specimens are mounted together on this pin, and I have put an L. beside the specimen that I hereby designate as **lectotype**.

C. erythrocephalus (Champion).—"S. Geronimo, Guatemala., Champion.; Type; Eupactus erythrocephalus Ch.; B.C.A. Coll. III. (2)., Lioolius."

C. exiguus (Gorham).—"Syntype; Type; Honduras; Salle Coll.; Type; Eupactus exiguus Gorh.; Tr. Ent. Soc. L., 1913, det. Champion; Lioolius exiguus Gorh.; B.C.A. Coll., III. (2)., Lioolius." There are two specimens in the series of *C. exiguus*; I have added a lectotype label to the specimen with the above data and hereby designate it as **lectotype**.

C. funki (Pic).—"Cumana; type; TYPE: Eupactus funcki Pic." Correct spelling is *funki*.

C. galapagoensis (Blair).—"Syntype; Type H. T. [upside down]; Galapagos: Charles Island., At light. Sea level., July 1924., St. George Expedn., C. L. Collette.; Thaptor galapagoensis Blr., Type, det. K. G. Blair." There are nine specimens in the Blair series, and I have added a label to the specimen with the above data and hereby designate it as **lectotype**.

C. georgicus (Blair).—"Charles Island. Galapagos. beaten from vegetation. 30.7.24. St. George Expedn. C. L. Collette.; Type H. T.; Eupactus georgicus Blair, Type, det. K. G. Blair."

C. germaini (Pic).—"Bolivia, Germain?; [3 obscure or folded labels]; type; TYPE: Eupactus germaini."

C. gibbosiceps (Pic).—"Brésil, ét de Sao Paulo. Val dud Rio Pardo, E. Gounelle, 12-98; type; TYPE: gibbosiceps Pic."

C. glaber (Gorham).—"Duenas, Guatemala, G. C. Champion; Type; Type; Eupactus glaber Gorh.; Tr. Ent. Soc. L., 1913, det. Champion; B.C.A. Coll. III. (2). Lioolius; Syntype." Four specimens represent this species; two are mounted on a card on one pin. I have written an L, below one of these, and it is hereby designated as **lectotype**. The pin bears a lectotype label.

C. gounellei (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; type; TYPE; Gounellei Pic." I hereby designate the specimen in the Pic series with these labels as **lectotype** and have added a lectotype label to it.

C. humilis humilis (Pic).—"Tijuca (Rio), Bresil, E. Gounelle, 12, 1884; Ech. no. 233, 1904, p. 37; type; TYPE; Humilis Pic."

C. humilis nitidissimus (Pic).—"Tijuca (Rio), Bresil, E. Gounelle, 12, 1884; Ech. no. 233, 1904, p. 37; type; TYPE; nitidissimus Pic."

C. inaequalicollis (Pic).—"Loja; type; TYPE; inaequalicollis n. sp."

C. instriatus (Pic).—"Corumba, Matt. Grosso; type; TYPE; Thaptor instriatus n. sp."

C. laevis (Gorham).—"Type; Sp. figured [upside down]; Type [upside down]; Leeward side, St. Vincent, W.I., H. H. Smith., 53.; W. Indies, 98.237.; Mirosternus laevis Gorh.; belongs to Eupactus Lec. = Lioolius Gorham."

C. latipennis Pic.—"Goyaz, Rio Verde; type; TYPE; latipennis Pic."

C. metallicus (Pic).—"N. Pérou, Prov. Tumbes, G. A. Baer; type; TYPE: metallicus Pic."

C. minasensis (Pic).—"Bresil (Minas), Sertao de Diamantina faz das Melancias E. Gounelle 10-11 1902; TYPE; minasiensis Pic." The spelling that was published is *minasensis*.

C. mixtus (Fall).—"Santa Rosa Low, Cal.; 22; mixtus TYPE; M.C.Z. Type 24683; H. C. FALL COLLECTION."

C. multimaculatus (Pic).—"Bresil (Minas), Campos de Diamantina, Faz. do Riacho Fundo, E. Gounelle 12 1902; Thaptor multimaculatus n. sp." Since this is the only member of the species I have found in the Pic collection, I hereby designate it as **lectotype**, for the specimen bears no type label. The data agree with that given by Pic, 1922: 5.

C. nactus (Fall).—"San Felipe Low, Cal; 6; nactus TYPE; M.C.Z. Type 24684; H. C. FALL COLLECTION; Eupactus nactus Fall."

C. nigricolor (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; Ech. no. 233, 1904 p. 37; type; TYPE; nigricolor Pic."

C. nigromaculatus (Pic).—"Bresil, (Gounelle); type; TYPE; nigromaculatus Pic." In the original description (Pic, 1904b: 32) the locality is given as San Antonio da Barra. There are no such data on the specimen.

C. nigronotatus (Pic).—"Septembre; Rep. Arg.; type; TYPE; Th. nigronotatus Pic."

C. nitescens (Champion).—"V. de Chiriqui, 25-4000 ft., Champion.; ♀; Type; Eupactus nitescens Ch.; Tr. Ent. Soc. L., 1913., det. Champion.; B.C.A. Coll. III. (2)., Lioolius." In the original description the altitude is given as 3000 feet.

C. oblongus (Gorham).—"Cordova Mexico, Salle Coll.; Type; Type; Thaptor oblongus Gorham; B.C.A. Coll. III. (2)., Thaptor."

C. ovulum (Gorham).—"Chontales., Janson; Type; Syntype; Type; ♀; Eupactus ovulum Gorh.; Tr. Ent. Soc. L., 1913, det. Champion, Lioolius ovulum Gorham; B.C.A. Coll. III. (2)., Lioolius." Though there is but one specimen of this species in the British Museum, there were four specimens mentioned by Gorham, 1883: 205. For that reason I hereby designate this specimen as the **lectotype**.

C. pubescens (Pic).—"Jatahy, Prov. Goyas. Brésil, Dec. 97-Janv. 98; Le Nat. no. 360, 1902, p. 55; type; TYPE; Thaptor pubescens Pic." This is one of two specimens in the Pic collection, and I hereby designate it as **lectotype**.

C. pubescens (Gorham).—"David Chiriqui. Champion; Type; Eupactus pubescens Gorham; B.C.A. Coll., III. (2)., Lioolius."

C. punctatus (Gorham).—"Salle Coll.; Honduras; Type; Type; Eupactus punctatus Gor.; Lioolius punctatus Gorh. Type; Lioolius punctatus Gorham; Tr. Ent. Soc. L. 1913 det. Champion; B.C.A. Col. III (2), Lioolius."

C. punctatus (Pic).—"Corumba, Matt. Grosso; type; TYPE; rugestriatus n. sp.; Thaptor punctatus n. sp."

C. pupatus (Gorham).—"Syntype; Capetillo. Guatemala, C. Champion; Type; Type Sp. figured; Thaptor pupatus Gorham; B.C.A. Coll. III. (2)., Thaptor." There are eight specimens in the type-series; I hereby designate the specimen with the above data as **lectotype** and have so labeled it.

C. rufescens (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; Le Nat. no. 360, 1902, p. 55; type; Type; Thaptor rufescens."

C. rufomaculatus Pic.—In the original description Pic, 1915, p. 8, gave the data as "Bresil: Tijuca (Gounelle)." I have a specimen that I compared with the type, but neglected to copy the type data when I examined it.

C. rufonitens (Pic).—"Bresil, Gounelle; Ech. no. 233, 1904, p. 37; type; TYPE: rufonitens Pic." In the original description Pic, 1904: 37, gave the datum Nova Friburgo; there is no such datum on the pin.

C. semirufus (Champion).—"Teapa Tabasco. Jan. H.H.S.; 1907-156; Type; Eupactus semirufus; Tr. Ent. Soc. L., 1913, det. Champion; B.C.A. Coll. III. (2)., Liolius."

C. sericeomaculatus Pic.—"Mineiro, Goyaz; type; TYPE: sericeomaculatus Pic."

C. sharpi (Gorham).—"Jalapa Mexico, Hoege; Type; Thaptor sharpi; B.C.A. Coll. III. (2)., Thaptor."

C. striatus (Gorham).—"Chontales, Janson; Type; Type; Eupactus striatus Gorh.; Tr. Ent. Soc. L., 1913., det. Champion; Liolius striatus Gorham; B.C.A. Coll. III. (2)., Liolius; Syntype." There are four specimens in Gorham's series and I hereby designate as **lectotype** the specimen with the preceding labels and have added a lectotype label to the pin.

C. subattenuatus (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; Exchange no. 233, 1903, p. 37; type; TYPE: subattenuatus Pic."

C. subattenuatus (Pic).—The data for this junior homonym (published by Pic, 1911: 122) are found under the name *attenuatus* (Pic).

C. subnotatus (Pic).—"Brésil; type; Exchange, no. 233, 1904, p. 36; TYPE; subnotatus Pic; Calymaderus (sic) brevicollis Sol.?"

C. subopacus (Pic).—"S. Antonio da Barra, Pr. de Bahia, Gounelle 11-12.88; type; TYPE; subopacus Pic."

C. substriatus (Pic).—"Goyaz, Rio Verde; n. sp. probabl; type; TYPE: Thaptor substriatus n. sp."

C. subvestitus (Champion).—"Mexico city, Höge; Type; Eupactus subvestitus Ch.; Tr. Ent. Soc. L.; 1913, det. Champion.; B.C.A. Coll. III. (2)., Liolius; Syntype." There are only two specimens in the Champion series; I hereby designate as **lectotype** the specimen with the above labels, and have so labeled it.

C. tessellatus (Pic).—"Jatahy, Prov. Goyas, Bresil, Dec. 97-Janv. 98; Le Nat. no. 313, 15 Mars. 1900, p. 68; type; TYPE: Th. tessellatus Pic."

C. testaceipes (Pic).—I neglected to copy the type data when I examined the type. Pic, 1905a, p. 93, gave the locality as Cuba.

C. theresae (Pic).—"N. Perou, Prov. Tumbes, Grau, G. A. Baer; Anobiidae?; L. Ech. no. 208; type; TYPE; Thaptor; Theresae Pic."

C. throscoides (Gorham).—"Syntype; Capetillo, Guatemala, C. Champion; Type; Thaptor throscoides Gorham; Sp. figured; B.C.A. Coll. III. (2), Thaptor." There are 11 specimens in this series; I hereby designate as **lectotype** the specimen to which I have added a lectotype label.

C. variegatus (Pic).—"Jatahy, Prov. Goyaz. Brésil, Dec. 97-Janv. 98; Le Nat. no. 313, 15 maro(?) 1900, p. 68; type; TYPE: Th. variegatus Pic."

C. venezuelensis Pic.—"Fracatal, Venezuel.; type; TYPE; Eupactus venezuelensis."

CALYMMADERUS SPECIES OF UNCERTAIN STATUS

argentinus Pic, 1928: 99.

atronotatus Pic, 1924: 376.

bibliothecarum Poey, 1851: 228.

humilis latior Pic, 1927: 247.

mexicanus Pic, 1904a: 18.

pudicus Boheman, 1858: 86.

newmani Brèthes, 1919: 27.

suturalis Pic, 1902b: 55.

I have seen no specimens reliably identified as any of the above, so I am unable to assign the names.

SPECIES FORMERLY IN *CALYMMADERUS*

The species listed below were in error placed by their describers in *Calymmaderus* or in genera now synonymic with it. A reference is given to the paper in which each species was transferred to its correct genus.

Calymmaderus aeneus Pic, 1915a: 10; now *Oyarzuna aenea* (Pic) in Chrysomelidae, see White, 1972: 216.

Eupactus barranus Pic, 1904c: 37; now a synonym of *Stichtoptychus diversestriatus* (Pic), see White, 1980: 11.

Calymmaderus brevicollis Solier, 1849: 474; now *Stichtoptychus brevicollis* (Solier), see White, 1974a: 229.

Eupactus brunneus Pic, 1904c: 36; now *Calythea brunnea* (Pic). Change made herein.

Calymmaderus granulatus Pic, 1923: 7; now *Stichtoptychus granulatus* (Pic), see White, 1974a.

Calymmaderus minutus Solier, 1849: 474; now *Stichtoptychus minutus* (Solier), see White, 1974a: p. 238.

Thaptor verdensis Pic, 1932: 11; now *Stichtoptychus verdensis* (Pic), see White, 1980.

KEY TO THE SPECIES OF *CALYTHECA*

1. Length about 2 mm; eyes small, separated by about 3× vertical diameter of an eye; head produced immediately in front of eyes; body stout, about 1.5× as long as wide; Peru *convexa* White
- Length 3–4 mm; eyes large, separated by 1.0–1.3× vertical diameter of an eye; head not produced in front of eyes; body elongate, about 1.8–2.0× as long as wide; Mexico and Brazil 2
2. About 2× as long as wide; each lateral process of antennal segments 4–7 about 2× as long as its segment; length 3.6–4.0 mm; Brazil .. *brunnea* (Pic)
- About 1.8× as long as wide; each lateral process of antennal segments 4–7 about 3–4× as long as its segment; length about 3.0 mm; Mexico ..
..... *elongata* White

LIST OF SPECIES OF *CALYTHECA*

brunnea (Pic), 1904c: 36.

elongata White, 1973: 844.

convexa White, 1974: 843.

LABEL DATA ON *CALYTHECA* TYPES

The data on the types of the two species described by White are given in White, 1973. The data on the type of the Pic species are given below.

C. brunnea (Pic).—“Bresil, Et de Rio de Janeiro, Nova Freburgo, E. Gounelle 2-3-4 1903: Ech. no. 233, 1904, p. 36; Type; brunneus Pic.”

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